



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/511,806

10/19/2004

Arnoldus Werner Johannes Oomen

NL 020692

4812

24737

7590

08/20/2008

PHILIPS INTELLECTUAL PROPERTY & STANDARDS

P.O. BOX 3001

BRIARCLIFF MANOR, NY 10510

EXAMINER

PAUL, DISLER

ART UNIT

PAPER NUMBER

2615

MAIL DATE

DELIVERY MODE

08/20/2008

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/511,806	<b>Applicant(s)</b> OOMEN ET AL.	
	<b>Examiner</b> DISLER PAUL	<b>Art Unit</b> 2615	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 19 October 2004.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-8 and 14-21 is/are rejected.
- 7) ☒ Claim(s) 9-13 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>11/02/05</u> .  | 6) <input type="checkbox"/> Other: _____                          |

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 112***

1. Claim 20 recites the limitations "the multi-channel audio signal & the first and second portion of information" in claim. There is insufficient antecedent basis for this limitation in the claim.

### ***Specification***

2. The reference of the original claims as disclose in the specification is not appropriate.

The applicant is advised to delete all the reference wherein the specific claims are mentioned in the specification.

### ***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1, 3-8,14,16-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Henn et al. (US 7,382,886) and Nishio et al. (US 2003/0088423 A1).

Re claim 1, Henn et al. disclose of the method of encoding a multi-channel audio signal comprising at least two audio channels, the method comprising, generating a single channel audio signal and

encoding the single channel audio signal into a bit stream as an encoded single channel audio signal (fig.1; col.4 line 10-20), generating information from the at least two audio channels allowing to recover with a required quality level the multi-channel audio signal from the single channel audio signal and the information (fig.1 wt (121); fig.4b), the generating of the information comprising, determining a first portion of the information for a first frequency region of the multi-channel audio signal, and encoding the first portion of the information into the bit stream as an encoded first portion of the information, and determining a second portion of the information for a second frequency region of the multi-channel audio signal, and encoding the second portion of the information into the bit stream as an encoded second portion of the information (col.9 line 50- col.10 line 6/each low, High band signals to put into different bit stream for transmitting).

But, Henn et al. fail to disclose of the second frequency region being a portion of the first frequency region to encode in bit stream. But, Nishio et al. disclose of a encoding system wherein similar concept of the second frequency region being a portion of the first frequency region to encode in bit stream (fig.5-6; page 7 par [0086]) for purpose of efficiently transmitting audio signal to enhance encoding accurately. Thus, taking the combined teaching of Henn et al. and Nishio et al. as a whole, it would have been obvious for one of the ordinary skill in the art at the time of the invention to have

modify Henn et al. with the encoding system wherein similar concept of the second frequency region being a portion of the first frequency region to encode in bit stream for purpose of efficiently transmitting audio signal to enhance encoding accurately.

Re claim 3, the method of encoding as claimed in claim 1, wherein the single channel audio signal is a particular combination of the at least two audio channels (fig.1 wt ((105))).

Re claim 4, the method of encoding as claimed in claim 1, characterized in that the information comprises sets of parameters, the first portion comprises at least a first one of the sets of parameters, the second portion comprises at least a second one of the sets of parameters, wherein each set of parameters is associated with a corresponding frequency region (fig.4a; col.9 line 50-65).

RE claim 5, the method of encoding as claimed in claim 4, characterized in that the sets of parameters comprise at least one localization cue (col.2 line 47-52).

Re claim 7, the method of encoding as claimed in claim 1 with the low band and high band frequency band and further with possibility of extending the bitstream of frequency signal (col.9 line 50-55), but, the combined teaching of Henn et al. and Nishio et al. as a whole, fail to disclose of the characterized in that the first frequency

Art Unit: 2615

region covers a full bandwidth of the multi-channel audio signal. But, official notice is taken the concept of having a frequency region covers a full bandwidth of the multi-channel audio signal is well known in the art, thus it would have been obvious for one of the ordinary skill in the art to have modify the combined teaching of Henn et al. and Nishio et al. as a whole, with such first frequency region covers a full bandwidth of the multi-channel audio signal for transmitting the stereo signals.

Re claims 14, 17-18 which are the broader version of claim 1 have been analyzed and rejection accordingly based on claim 1.

Re claim 19, the method of decoding a multi-channel audio signal being encoded as claimed in claim 17, the method of decoding comprising: obtaining a decoded single channel audio signal, obtaining decoded information from the information allowing to recover the multi-channel audio signal from the decoded single channel audio signal and the decoded information, the decoded information comprises the first portion of the information and the second portion of the information, and applying either the first portion of the information or the first portion and the second portion of the information on the single channel audio signal to generate the decoded multi-channel audio signal (fig.1 ; col.4 line 20-31; .

Re claim 8, the combined teaching of Henn et al. and Nishio et al. as a whole, disclose of the method of encoding as claimed in claim 1, characterized in that the first frequency region substantially covers a full bandwidth of the multi-channel audio signal, the second frequency region covers a portion of the full bandwidth (Nishio, fig.5-6; par[0085-0086]), and in that the determining of the second portion of the information is adapted to determine sets of parameters for both the second frequency region and a set of further frequency regions, the second frequency region and the set of further frequency regions substantially covering the full bandwidth, where in the set of further frequency regions comprises at least one further frequency region (Nishio, fig.5-6).

XXXnote (the examiner consider such the second portion of the information is adapted/capable as not positively limiting the claim above, and thus Nishio may be capable of also doing the same).

Re claim 16, the apparatus for supplying an audio signal, the apparatus comprising: an input for receiving an audio signal, an encoder as claimed in claim 14 for encoding the audio signal to obtain an encoded audio signal, and an output for supplying the encoded audio signal. (Cellario, fig.1 wt (109)).

Re claim 6, the method of encoding as claimed in claim 5 with localization cue, But, the combined teaching of Henn et al. and Nishio

Art Unit: 2615

et al. as a whole, fail to disclose of the specific wherein such characterized in that the at least one localization cue is selected from: an interaural level difference, an interaural time or phase difference, or an interaural cross-correlation. But, official notice is taken the concept of having such localization cue being of the specific interaural level difference, an interaural time or phase difference, or an interaural cross-correlation is well known in the art, thus it would have been obvious for one of the ordinary skill in the art to have modify the combined teaching of Henn et al. and Nishio et al. as a whole, with the interaural level difference, an interaural time or phase difference, or an interaural cross-correlation for creating phantom sound signals.

Re claim 19, the method of decoding a multi-channel audio signal being encoded as claimed in claim 17, the method of decoding comprising: obtaining a decoded single channel audio signal, obtaining decoded information from the information allowing to recover the multi-channel audio signal from the decoded single channel audio signal and the decoded information, the decoded information comprises the first portion of the information and the second portion of the information, and applying the parameters to generate the decoded multi-channel audio signal (fig.1 (119,117); col.4 line 20-35).

But, the combined teaching of Henn et al. and Nishio et al. as a whole, fail to disclose of the specific of applying either the first

Art Unit: 2615

portion of the information or the first portion and the second portion of the information on the single channel audio signal to generate the decoded multi-channel audio signal. But, official notice is taken the concept of having the parameter being the either the first portion of the information or the first portion and the second portion of the information on the single channel audio signal to generate the decoded multi-channel audio signal is simply the inventor's preference thus, it would have been obvious for one of the ordinary skill in the art to have modify the combined teaching of Henn et al. and Nishio et al. as a whole, with the specific wherein applying the either the first portion of the information or the first portion and the second portion of the information on the single channel audio signal to generate the decoded multi-channel audio signal for obtaining the original signal output.

Re claim 20 has been analyzed and rejected with respect to claim 19.

Re claim 21, the apparatus for supplying a decoded audio signal, the apparatus comprising: an input for receiving an encoded audio signal, a decoder as claimed in claim 20 for decoding the encoded audio signal to obtain a multi-channel output signal, and an output for supplying or reproducing the multi-channel output signal (fig.1 wt (121)).

6. Claims 2, 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Henn et al. (US 7,382,886).

Re claim 2, Henn et al. disclose of the method of encoding a multi-channel audio signal comprising at least two audio channels, the method comprising, generating a single channel audio signal, generating information from the at least two audio channels allowing to recover with a required quality level the multi-channel audio signal from the single channel audio signal and the information (fig.1 wt (121); fig.4b), while, Henn et al. disclose of the above and having bit for mono signal, But, He fail to disclose of the specific wherein the generating of the information comprising, receiving a maximum allowable bit rate of the encoded multi-channel audio signal. But, Cellario et al. disclose of an encoding system wherein such generating of the information comprising, receiving a maximum allowable bit rate of the encoded multi-channel audio signal (col.6 line 1-6; col.13 line 40-47) for purpose of encoding the optimal parameters used to represent the specific concrete class. Thus, taking the combined teaching of Henn et al. and Cellario et al. as a whole, it would have been obvious for one of the ordinary skill in the art to have modify Henn et al. with the generating of the information comprising, receiving a maximum allowable bit rate of the encoded multi-channel audio signal for purpose of encoding the optimal parameters used to represent the specific concrete class.

The combined teaching of Henn et al. and Cellario et al. as a whole, and only determining a first portion of the information for a first frequency region of the multi-channel audio signal if a bit rate of the encoded multi-channel audio signal comprising the single channel audio signal and the first portion of the information is not higher than the maximum allowable bit rate (Cellario, col.13 line 35-55, col.7 line 1-12; col.11 line 7-23/based on maximum bandwidth the subbands is known for certain region).

Re claim 15 has been analyzed and rejected with respect to claim 2.

### ***Allowable Subject Matter***

7. Claims 9-13 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to DISLER PAUL whose telephone number is (571)270-1187. The examiner can normally be reached on 7:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chin Vivian can be reached on 571-272-7848. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/D. P./  
Examiner, Art Unit 2615

/HUYEN D. LE/  
Primary Examiner, Art Unit 2615